

PYSHKALO, A.M.; SEMUSHIN, A.D. (Moskva)

Mathematical training of students. Mat. v shkole no.4:17-22
Jl-Ag '61. (MIRA 14:8)
(Mathematics--Study and training)

PYSHKALO, A.M. (Moskva)

"Pedagogical lectures" of 1961 in Moscow. Mat. v shkole no.4:
83-84 J1-Ag '61. (MIRA 14:8)
(Mathematics--Study and teaching)

REVZIN, Yu.V.; PYSHKALO, A.M. (Moskva)

Calculation of the theoretical weight of machine parts and some
other problems. Mat.v shkole no.4:51-55 J1-Ag '59.

(MIRA 12:11)

(Mathematics--Study and teaching)

MEL'NIKOVA, R.; FYSHKALO, G.

A dangerous quarantine pest *Ceratitis capitata*. Zashch. rast.
ot vred. i bol. 10 no.5:49-51 '65. (MIRA 18:6)

1. Nachal'nik Krymskoy karantinnoy inspektsii (for Mel'nikova).
2. Direktor Krymskoy karantinnoy laboratorii (for Pyshkalo).

PYSHKALO, R.P.

GOLOVIN, A.G.; PYSHKALO, R.P., starshiy entomolog.

Dissimination of knowledge is an important task. Zashch. rast. ot
vred. i bol. 3 no.1:47-49 Ja-P '58. (MIRA 11:3)

1. Nachal'nik Gosinspektsii po karantinu rasteniy po Moldavskoy SSR
(for Golovin).

(Plant diseases) (Weed control) (Agricultural pests)

PYSHKALO, V.D., inzh.; AKIMOV, L.V., inzh.

Determination of the electromagnetic and electromechanical time constant
of systems containing d.c. motors. Elektrotehnika 34 no.12:57-59 D '63.
(MIRA 17:1)

PYSHKALOV, V.D., inzh.

Optimum acceleration of a diesel locomotive. Sbor.LIIZHT no.167:
131-142 '59. (MIRA 13:5)
(Automatic control) (Diesel locomotives)

PYSHKALO, V.D., inzh.

Stability of automatic control systems for electric locomotives
with ion transformers. Sbor. LIIZHT no. 159:236-249 '58.

(MIRA 12:2)

(Electric locomotives)

(Automatic control)

L 04450-57 EWT(1)

ACC NR: AP6014691

SOURCE CODE: UR/0105/66/000/005/0022/0027

AUTHOR: Akimov, L. V. (Engineer; Khar'kov); Pyshkalo, V. D. (Engineer; Khar'kov); Shamray, V. P. (Engineer; Khar'kov)

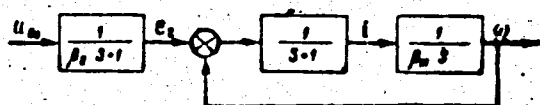
ORG: none

TITLE: Time-optimal processes of acceleration, reversing, and deceleration in MG-set-motor drive systems

SOURCE: Elektrichestvo, no. 5, 1966, 22-27

TOPIC TAGS: motor generator, MG set, MG set motor drive, rolling mill

ABSTRACT: Time-optimal laws of variation of control input in an MG-set-motor drive system of configuration shown in the figure are considered. Differential equations describing the system were set up by the authors elsewhere; in the present article, their solution (in terms of hyperbolic functions) is analyzed. As most



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UDC: 621.34:62-581

L 04450-67

ACC NR: AP6014691

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industrial high-speed applications involve oscillatory transient processes, the case of complex conjugate roots of the corresponding characteristic equation is considered. Three-, five-, and seven-interval transient processes are examined. The curves characterizing these processes are based on a practical reversing hot-rolling mill with a PBK250/145, 3320-kw, 700-v, 5150-amp, 50/120-rpm motor and a PBK215/40, 3600-kw, 700-v, 5150-amp, 425-rpm generator (time constants supplied). Only the process of acceleration is considered in detail. Orig. art. has: 5 figures and 24 formulas.

SUB CODE: 309 / SUBM DATE: 01Dec65 / ORIG REF: 003

Cord 2/2 *egh*

SYNTH. P.; LAMPIN, G., Invent. Lening. Inst.

Increasing the carrying capacity of pressure paper with a spiral
pulp flow. Rech. transp. 23 no.10:43-45 1974.

(MIRA 7:12)

1. Ekian-korrespondent AN URSR (for Pyskin).

4118

incompressible fluid
laminar, viscous
17

1659. B. Pyshkin, "Double spiral movement of a fluid in a straight channel with semicircular profile" (in Russian), *Bull. Acad. Sci. USSR Ser. tech. Sci. Div. Acad. Sci. USSR Ser. tech. Sci.*, Aug. 1967, no. 8, pp. 1015-1019.

The author works out (with a view toward applications to the flow of water in rivers) two examples of rotational movement of an incompressible frictionless fluid in a straight semicircular channel. The vorticity is parallel and proportional to the velocity in one example, and parallel to the axis of the channel in the other.

The reviewer observes that in neither example is the pressure at the free surface constant, and that the discharge is equal to zero in the first example.

Ladislav Špaček, Czechoslovakia

~~P. j. k. m. A. N.~~ PYSHKIN, A. N.
DOROKHOV, Stepan Alekseyevich; PYSHKIN, A. N., spetsredaktor; KUZ'MINA, V. S.,
red.; MUSTAFIN, A. M., tekhn. red.

[Controlling pests which damage fish products] Bor'ba s vrediteliami
rybnykh tovarov. Moskva, Fishchepromizdat, 1957. 95 p. (MIRA 11:3)
(Fisheries--Hygienic aspects)

USSR / Human and Animal Physiology. Blood. Form Elements. T

Abs Jour: Ref Zhur-Biol., No 22, 1958, 101791.

Author : Pyshkin, A. S.; Artyushkevich, V. S.

Inst : Smolensk Medical Institute

Title : The Leucocytic Reaction to Cooling and Roentgen Rays (Gamma-Rays).

Orig Pub: Sb. nauchn. rabot. stud. Smolenskiy med. in-t, 1957, vyp. 6, 65-70.

Abstract: Tests were made on 3 series of mice: one, subjected to general single irradiation of 350 r with preliminary and subsequent cooling in a refrigerator under 40°; another, irradiated with the same dose without cooling; and the third, subjected to cooling without irradiation. In the I series, in the first 2 days leucocytosis (up to 18,000 in 1 mm³) and from the 5th day leucopenia (5500) and

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USSR / Human and Animal Physiology. Blood. Form Elements. T

Abs Jour: Ref Zhur-Biol., No 22, 1958, 101791.

Abstract: signs of radiation sickness (RS) were observed. In the II series, leucocytosis was absent in the first days; leucopenia was slightly pronounced; the signs of RS developed slower. In the mice of the III series, a marked decrease of the number of leucocytes (from 20 350 to 11600) was discovered, probably due to the consequence of blood redistribution. The development of RS was accompanied by loss of weight in the experimental mice. Death rate was higher in the I series than in the II. Cooling led to leucopenia and accelerated the development of RS. -- E. R. Paley.

Card 2/2

PYSHKIN, Boris Andreyevich; PECHKOVSKAYA, O.M., red. izd-va; MONZHERAN, P.F., tekhn. red.; SUKHOMEL, G.I., akademik, retsenzent; SRIENYY, M.F., retsenzent; RUSAKOV, S.V., kand. tekhn. nauk, retsenzent; ROZOVSKIY, I.L., kand. tekhn. nauk, retsenzent; PECHKOVSKAYA, O.M., red. izd-va; MONZHERAN, P.F., tekhn. red.

[Problems in the dynamics of reservoir banks] Voprosy dinamiki beregov vodokhranilishch. Izd. 2., perer. i dop. Kiev, Izd-vo AN Ukr.SSR, 1963. 331 p. (MIRA 16:7)

1. AN Ukr.SSR (for Sukhomel). 2. Chlen-korrespondent AN Ukr.SSR (for Sribnyy).

(Reservoirs)

RUSAKOV, Sergey Vasil'yevich; PYSHKIN, B.A., prof., red.; STEPANOV, V.O., nauchnyy red.; DAKHNO, Yu.B., tekhn. red.

[Design, construction and operation of protective structures at the Kakhovka Reservoir] Dosvid proekuvannia, budivnytstva ta ekspluatatsii zakhysnykh sporud Kakhovs'koho vodoskhovyshecha. Pid red. B.A.Pyshkina. Kyiv, Vyd-vo Akad.nauk URSR, 1962.. 67 p. (MIRA 16:3)

1. Chlen-korrespondent Akademii nauk Ukr.SSR (for Pyshkin). (Kakhovka Reservoir--Shore protection)

PISHKIN, B.

"Calculation on dam water reservoirs for the effect of wind caused waves."

Dissertation for Doctor of Technical Sciences, Moscow Water Resources Development Inst.
im. Vil'yams, (MGMI)

Subject: Hydroengineering building and construction.

Gidrotekhnicheskoye, stroitel'stvo, 12, 1946.

PYSHKIN, B.A.

The helical movement of liquids in circular pipes. Izv. AN SSSR Otd. tekhn. nauk no. 1:53-60 '47. (MIRA 6:12)

1. Sektsiya po nauchnoy razrabotke problem vodnogo kholodnykh ^{experiments} ^{water} ^{circulation} ~~khosyaystva~~ Akademii nauk SSSR. 2. Predstavleno akademikom L.S. Leybenzonom. (Hydrodynamics)

A general formula is derived, on the basis of which a graph may be prepared for rapid determination of the above movements.

Source: Mathematical Reviews, 1948, Vol 9, No. 4

Smw

PYSHKIN, B., professor, doktor tekhnicheskikh nauk.

Height reached by a wave rolling on a slight slope. Mor. flot 7
no.5:41-42 My '47. (MLBA 9:5)

(Waves)

PYSHKIN, B. A.

Pyshkin, B. A. "On the shovel-type water intake", Nauch. zapiski (Mosk. gidromeliorat. in-t im. Vil'yamsa), Vol. XV, 1948, p. 53-74, - Bibliog: 17 items.

SO: U-3241, 10 April 53, (Letopis 'Zhurnal 'nykh Statey, No. 11, 1949).

PYSHKIN, B. A.

Potapov, M. V. and Pys'kin, B. A. "Circulating current in a circular tube,"
Nauch. zapiski (Mosk. gidromeliiorat. in-t im. Vilyamsa), Vol. XVII, 1948,
p. 107-24 - Bibliog: 9 items

SO: U-3264 10 April 53, (Letopis 'Zhurnal 'nykh Statey, No. 4, 1949).

PYSHKIN, B. A.

Pyshkin, B. A. "Protection of bridge supports from partial wearing away,"
Nauch. zapiski (Mosk. gidromeliorat. in-t im. Vil'yamsa), Vol. XVII, 1948
pp. 125-26 - Bibliog: 16 items

SO: U-3264, 10 April 53 (Istoria 'Zhurnal 'nykh Statey, No. 4, 1949).

FYSHKIN, B. A.

36674 Fyskin, B. A. Metodika rascheia krepleniya napornogo otkosa zemlyanoy ployiny. Izvestiya In-ta gidrologii i gidrotekhnika (akad, nauk Ukr. SSR) T. V, 1949, c. 42-59. ----- Ma Ukr. Yaz. -----rezyume na rus. Yaz. ----- Bibliogr: 11 nazv.

SO: Letopis' Zhurnal'nykh Statey, ^V ol. 50, Moskva, 1949

PYSHKIN, B

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Nizkovapornyye plotiny iz mestnykh materialov (Low-pressure dams from local materials) Kiyev, Izd-vo ANUKSSR, 1951.

224 p. illus., diagrs., tables.

At head of title-page: Akademiya Nauk Ukrainskoy SSR. Institut Gidrologii i Gidrotekhniki.

Bibliography: p. 221-222.

PYSHKIN, B.A., doktor tekhn. nauk; RUSAKOV, S.V., kand. tekhn. nauk.

Method for calculating strength of Dnieper-type shore protection
installations. Izv. Inst. gidrol. i gidr. AN USSR 8:3-11 '51.
(Shore protection) (MIRA 11'54)

PYSHKIN, B.A., chlen-korrespondent.

Double spiral motion of a liquid in a straight open channel with parabolic cross section. Dop. AN URSR no.6:467-470 '52. (MLRA 6:10)

1. Akademiya nauk Ukrayins'koyi RSR. 2. Instytut gidrologiyi ta gidrotekhniki
Akademiyi nauk Ukrayins'koyi RSR. (Hydrodynamics)

BELYASHEVSKIY, N.N., kandidat tekhnicheskikh nauk; FYSHKIN, B.A., redaktor;
KAPLAN, Ya.L., redaktor; SIVACHENKO, Ye.K., tekhnicheskiiy redaktor

[The impact of tread water and tail water below overflow weirs with
a bucket lip] Sopriazhenie b'efov sa yodoslivnymi plotinami s noekom.
Pod red. B.A.Fyshkina. Kiev, Isd-vo Akademii nauk Ukraineskoj SSR,
1953. 206 p. (MLRA 7:10)

1. Chlen-korrespondent AN USSR (for Fyshkin)
(Hydraulics) (Spillways)

PTSHKIN, B.A., professor; NEMENKO, L., redaktor; VUYEK, M., tekhnicheskii redaktor.

[Hydraulic structures] Hidrotekhnichni sporudy. Kyiv, Derzhavne vyd-vo tekhnichnoi lit-ry URSR, 1953. 367 p. (MLRA 8:2)
(Hydraulic engineering)

PYSHKIN, B.A.; RUSAKOV, S.V., kand. tekhn. nauk.

Calculating the strength and stability of large dikes. Isv. Inst.
gidrol. i gidr. AN USSR 9:3-18 '53. (MIRA 11:4)

1. Chlen-korrespondent AN USSR (for Pyshkin).
(Dikes (Engineering)) (Shore protection)

PYSHEIN, B.A.

Calculations for protecting canal banks from waves caused by ships.
Izv. Inst. gidrol. i gidr. AN USSR 9:19-22 '53. (MIRA 11:4)

1. Chlen-korrespondent AN USSR.
(Canals) (Shore protection) (Hydrodynamics)

PYSHKIN, B.A., redaktor; GAVRILOV, V.N., redaktor; SIVACHENKO, Ye.K.,
tekhnicheskii redaktor.

[Problems on the scientific basis of the construction of the
Kakhovka water power project] Voprosy nauchnogo obosnovaniia
stroitel'stva Kakhovskogo gidrouzla. Pod red. B.A.Pyshkina.
Kiev, Izd-vo Akademii nauk Ukrainakoi SSR, 1954. 94 p.
[Microfilm] (MLRA 7:12)

1. Chlen-korrespondent AN USSR (for Pyshkin). 2. Akademiya nauk
USSR, Kiev. Rada vyvchennia produktyvnykh syl.
(Hydraulic engineering) (Kakhovka Hydroelectric Power Station)

PYSHKIN, B.A.; RUSAKOV, S.V., kandidat tekhnicheskikh nauk; SUKHOMEL,
G.I., otvetstvennyy redaktor; KHARITONSKIY, M.B., redaktor;
SIVACHENKO, Ye.K., tekhnicheskiy redaktor.

[Major stream regulation engineering works of the Dnieper type;
design and calculations] Kapital'nye vypravitel'nye soorusheniia
dneprovskogo tipa; konstruktii i raschety. Kiev, Izd-vo Akademii
nauk Ukrainskoi SSR, 1954. 115 p. [Microfilm] (MLRA 8:2)

1. Chlen-korrespondent Akademii nauk Ukrainskoy SSR (for Pyshkin).
2. Deyatvitel'nyy chlen Akademii nauk Ukrainskoy SSR (for Sukhomel).
(Rivers--Regulation)

Instytut Hidrologii i Hidrotekhniki

PYSHKIN, Boris Andreyevich, doktor tekhnicheskikh nauk, professor; SUKHO-
MEL, G.I., redaktor; KHARITONSKIY, M.B., redaktor; SIVACHENKO, Ye.K.,
tekhnicheskiiy redaktor.

[Problems in the hydrodynamics of reservoir banks] Voprosy dinamiki
beregov vodokhranilishch, Kiev, Izd-vo akademii nauk Ukrainskoi SSR,
1954. 134 p. [Microfilm] (MLRA 7:12)

1. Chlen-korrespondent Akademii nauk USSR (for Pyshkin) 2. Deystvi-
tel'nyy chlen AN USSR (for Sukhomel).
(Reservoirs) (Hydrodynamics)

PYSHKIN, B.A.

Non-eroding water-flow speeds in sloping channel bottoms. Dop. AN
USSR no.2:108-110 '54. (MIRA 8:4)

1. Chlen-korrespondent Akademii nauk USSR. 2. Institut gidrologii
ta gidrotekhniki AN USSR.
(Hydraulics)

PYSHKIN, B.A.

Artificial double spiral motion in a wide fluid flow. Dop. AN USSR
no. 4:280-283 '54. (MIRA 8:4)

1. Chlen-korrespondent Akademii nauk USSR. 2. Institut gidrologii
ta gidrotekhniki AN USSR.
(Hydraulics)

PYSHKIN, B.A.

TSAYTTS, E.S., inzhener; PYSHKIN, B.A., professor, rukovodil vypolneniem raboty.

Planning the upper slope of an earth dam without reinforcement.
Gidr.i mel. 6 no.1:60-64 Ja '54. (MLRA 7:1)

1. Chlen-korrespondent Akademii nauk USSR. (Dams)

PYSHKIN, B.A.

Predicting the dynamics of the banks of water reservoirs. Izv. Inst.
gidrol. i gidr. AN URSS 11:3-23 '54. (MIRA 8:4)

1. Chlen-korrespondent Akademii nauk USSR.
(Reservoirs)

RUSAKOV, Sergey Vasil'yevich, kandidat tekhnicheskikh nauk; PYSHKIN, B.A.,
redaktor, KAZANTSEV, B.A., redaktor; ZHUKOVSKIY, A.D., tekhnicheskii
redaktor.

[Development of waterway maintenance work on the Dnieper and other
rivers of the Ukraine] Razvitie putevykh rabot na Dnepre i drugikh
rekakh Ukrainy. Kiev, Izd-vo Akademii nauk USSR, 1955. 67 p. (MLBA 9:4)

1. Chlen-korrespondent Akademii nauk Ukrainskoy SSR (for Pyshkin)
(Ukraine--Rivers--Regulation)

PYSHKIN, Boris Andreyevich, PIOTROVSKIY, A.V., inzhener;
KAZANTSEV, B.A., redaktor; RAKHLINA, N.P., tekhnicheskiy redaktor.

[Log floating and log floating structures on the rivers of the
Ukraine] Lesosplav i lesosplavnye sooruzhenia na rekakh Ukrainy.
Kiev, Izd-vo Akademii nauk USSR, 1955. 159 p. (MLBA 9:4)

1. Chlen-korrespondent AN USSR (for Pyshkin).
(Lumbering) (Hydraulic engineering)

PISHKIN, B.A.

Calculating the effect of unreinforced banks on wave action. Dop. AN URSR
no.1:32-33 '55. (MIRA 8:7)

1. Chlen-korrespondent AN URSR. 2. Institut gidrologii ta gidrotekhniki
AN URSR. (Hydraulics)

PYSHKIN, B.A.

Spiral movement of a liquid containing suspended sediment in a square section of straight pipe. Izv. Inst. gidrol. i gidr. AN USSR 12:46-57 '55. (MLRA 9:4)

1. Chlen-korrespondent AN USSR.
(Hydrodynamics)

PISHKIN, B.A.

Calculating the action of waves on non-reinforced slopes composed
of bound soils. Dep.AN URSR no.1:42-43 '56. (MLRA 9:7)

1.Chlen-korespondent AM URSR.2.L'vivs'kiy derzhavniy universitet.
(Soil mechanics) (Waves)

PYSHKIN, B.A., professor.

Calculating the reinforcement of rock fill earthen embankments.
Gidr.stroi.25 no.8:43-45 S '56. (MLA 9:10)

1.Chlen-korrespondent Akademii nauk USSR.
(Embankments)

BELYASHEVSKIY, Nikolay Nikolayevich, kandidat tekhnicheskikh nauk; ~~PYSHKIN~~,
B. professor, redaktor; PECHKOVSKAYA, O.M., redaktor izdatel'stva;
ZHUKOVSKIY, A.D., tekhnicheskiy redaktor

[Experience in constructing and operating improved types of
spillway dams made of rock fill] opyt stroitel'stva i ekspluatatsii
uluchshennykh tipov vodoslivnykh plotin iz kamennoi nabroski. Pod
red. B.A.Pyshkina. Kiev, Izd-vo Akad.nauk USSR, 1957. 128 p.

(MLRA 10:8)

1. Chlen-korrespondent Akademii nauk Ukrainskoy SSR (for Pyshkin)
(Dams)

Pyshkin, Boris Andreyevich

PYSHKIN, Boris Andreyevich; LEBEDICH, Nikolay Vasil'yevich; DYATLOVITSKIY, L.I., kand.tekhn.nauk, otvetstvennyy red.; KAZANTSEV, B.A., red. izd-va; ROZENTSVEYG, Ye.N., tekhn.red.

[Navigation of minor rivers in the Ukraine] Sudokhodstvo na malykh rekakh Ukrainy. Kiev, Izd-vo Akad.nauk USSR, 1957. 154 p.

(MIRA 11:2)

1. Upravleniye rechnogo transporta pri Sovete Ministrov USSR (for Lebedich). 2. Institut gidrologii i gidrotekhniki AN USSR (for Pyshkin)

(Ukraine--Inland navigation)

PYSHKIN, B.A., professor.

Effect of the length of a wave on the height of swell on a sloped
embankment. Gidr. stroi. 26 no. 4:37-38 Ap '57. (MIRA 10:6)

1. Chlen-korrespondent Akademii nauk USSR.
(Waves)

DYATLOVITSKIY, Lev Isaakovich; VARVAK, P.M., prof., doktor tekhn.nauk, retsenzent; BLAGOVESHCHENSKIY, Yu.V., kand.tekhn.nauk, retsenzent; PYSHKIN, B.A., otv.red.; MEMENKO, L.A., red.izd-va; SHTUL'MAN, I.F., red.izd-va; ROZENTSVYEG, Ye.N., tekhn.red.

[Stresses in gravity dams on earth foundations] Napriazhenia v gravitatsionnykh plotinakh na neskali'nykh osnovaniyakh. Kiev, Izd-vo Akad.nauk USSR, 1959. 338 p. (MIRA 12:10)

1. Chlen-korrespondent AN USSR (for Pyshkin).
(Dams) (Strains and stresses)

~~PYSHKIN~~, Boris Andreyevich, prof.; RUSAKOV, Sergey Vasil'yevich; MAKSIMCHUK, Vladimir ~~Dmitriy~~, ~~SOKOL'NIKOV~~, Yuriy Nikolayevich: Prinimal uchastiye: DOKUKIN, G.B., TOLMACHOV, A.B., retsenzent; TSIMBERG, I.Ye., retsenzent; PECHKOVSKAYA, O.M., red.; MATVEY-CHUK, A.A., tekhn.red.

[Problems in planning channel deepening cuts] Voprosy proektirovaniia dnouglubitel'nykh prorozei. Pod red. B.A.Pyshkina. Kiev, Izd-vo Akad.nauk USSR, 1959. 157 p. (MIRA 12:12)

1. Chlen-korrespondent AN USSR (for Pyshkin). 2. Glavnyy inzhener Dneprovskogo basseynovo upravleniya puti (for Tolmachov). 3. Nachal'nik otдела vodnykh putey Ukgiprorechtransa (for TSimberg). (Rivers--Regulation)

14(10)

SOV/98-59-6-8/20

AUTHOR: Pyshkin, B.A., Corresponding Member of the AS
UkrSSR, Professor

TITLE: The Engineering and Economic Calculation of Protection of Water Reservoir Banks Against Washout and Flooding

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 6, pp 26-29 (USSR)

ABSTRACT: With the flattening of a water reservoir bank, exposed to the action of waves, the volume of the embankment increases and the size of stones protecting the slope decreases. The author describes in detail analytical and graphic calculations to find a most economical solution in determining the minimum overall cost of the embankment and of its stone protection layer. The calculation is based on the formula developed by C. Beaudevin (France), and substantiated by a formula elaborated by Ye.S. Tsayts under the

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SOV/98-59-6-8/20

The Engineering and Economic Calculation of Protection of Water Reservoir Banks Against Washout and Flooding

author's supervision as a result of laboratory tests with a sand slope.

$$m - m_0 = 22 \frac{h^{\frac{1}{2}}}{d^{\frac{1}{2}}}$$

where m is the factor of the stable slope; m_0 is the factor of the natural slope, i.e. $\text{ctg} \varphi$ (φ is the angle of the natural slope; d is the average diameter of sand grain in mm; h is the wave height in m. There are 4 tables, 3 diagrams, 2 graphs and 3 references, 2 of which are Soviet and 1 French.

Card 2/2

PYSHKIN, B.A.

Forecasting the dynamics of development of steep and erodible
reservoir banks. Izv. Inst. gidrol. i gidr. AN USSR 15:3-11.
'59. (MIRA 12:9)

1. Chlen-korrespondent AN USSR.
(Beach erosion)

NEPOROZHNIY, Petr Stepanovich; FILAKHTOV, Aleksey Lazarevich; PYSHKIN, —
B.A., red.; PECHKOVSKAYA, O.M., red.izd-va; SKLYAROVA, V.S.,
tekh.n.red.

[Experience in building hydroelectric power units] Opyt stroi-
tel'stva gidroenergouzelov. Kiev, Izd-vo Akad.nauk USSR, 1960.
349 p. (MIRA 13:4)

1. Chlen-korrespondent AN USSR (for Pyshkin).
(Hydroelectric power stations)

PYSHKIN, B.A., prof.

Studying deformations and stresses in concrete dams.
Gidr. stroi. 30 no.6:58-61 Je '60. (MIRA 13:7)

1. Chlen-korrespondent AN USSR.
(Dams)

PYSHKIN, B.A., red.; ARISTOVSKY, V.V. [Aristovs'kyi, V.V.], doktor tekhn. nauk, red.; DYATLOVITSKIY, L.I. [Diatlovyts'kyi, L.I.], kand. tekhn. nauk, red.; SPIRIN, G.M. [Spirin, H.M.], red.; SPIRINA, N.I., red.; PECHKOVSKAYA, O.M. [Pechkovs'ka, O.M.], red. izd-va; RAKHLINA, N.P., tekhn. red.

[Investigating the stressed state of hydraulic structures] Doslidzhennia napruzhennoho stanu hidrotekhnichnykh sporud; sbirnyk naukovykh prats'. Kyiv, 1961. 149 p. (MIRA 14:10)

1. Akademiya nauk URSS, Kiev. Rada po vyvchenniu produktyvnykh syl URSS. 2. Chlen-korrespondent AN URSS (for Pyshkin). (Hydraulic structures)

PYSHKIN. Boris Andreyevich; RUSAKOV, Sergey Vasil'yevich; MAKSIM-
CHUK, Vladimir Lukich; PECHKOVSKAYA, O.M., red. izd-va;
MATVEYCHUK, A.A., tekhn. red.

[Design of protective structures on the banks of reservoirs]
Proektirovanie zashchitnykh sooruzhenii na vodokhranilishchakh.
Pod red. B.A.Pyshkina. Kiev, Izd-vo Akad. nauk USSR, 1962. 134 p.
(MIRA 15:5)

1. Chlen-korrespondent Akademii nauk USSR (for Pyshkin).
(Reservoirs) (Shore protection)

ZHELEZNYAK, Iosif Aronovich; PYSHKIN, B.A., prof., otv. red.;
KOZHINA, Z.M., red.

[Regulation of flood flow] Regulirovanie pavodochnogo
stoka. Leningrad, Gidrometeoizdat. Pts.1 - 2. 1965.
325 p. (MJRA 18:9)

1. Chlen-korrespondent AN Ukr.SSR (for Pyshkin).

RYCHKE, B.A.; MOSEKIN, G.E. [Doklady, N.S.]

Some characteristics of the spiral movement of water current
and hydraulic fluids in circular pressure pipes. Visti Inst.
hidrol. i hidr. AN USSR 23:76-85 '63.

(MIRA 17:12)

DIDKOVSKIY, M.M., kand. tekhn. nauk, otv. red.; DYATLOVITSKIY,
L.I., doktor tekhn. nauk, red.; ROZOVSKIY, I.L., doktor
tekhn. nauk, zam. otv. red.; NIKITIN, I.K., kand. tekhn.
nauk, red.; PYSHKIN, B.A., red.; SILIN, N.A., kand. tekhn.
nauk, red.; SUKHOMEL, G.I., akademik, red.; SHTEPANEK,
S.I., kand. tekhn. nauk, red.; GILELAKH, V.I., red.

[Hydraulic engineering and fluid mechanics] Gidrotekhnika
i gidromekhanika. Kiev, Naukova dumka, 1964. 217 p.
(MIRA 17:12)

1. Akademiya nauk URSR, Kiev. Instytut hidromekhaniky.
2. Chlen-korrespondent AN Ukr.SSR (for Pyshkin). 3. AN
Ukr.SSR (for Sukhomel).

POPOV, V.P., prof., otv. red.; BOGATYR, T.K., red.; DUBROVA, O.T.,
prof., red.; ZAMORIY, P.K., prof., red.; MARYNICH, O.M.,
doktor geogr. nauk, red.; POGREBNIYAK, P.S. [Pohrebniak,
P.S.], akademik, red.; PYSHKIN, B.A., red.; STAROVOYTENKO,
I.P. [Starovoitenko, I.P.], kand. geogr. nauk, red.;
KHARCHENKO, A.S., dots., red.; MEL'NIK, G.F. [Mel'nyk, H.F.],
red.izd-va; TURBANOVA, N.A., tekhn. red.

[Materials on the meteorology and hydrology of the Ukraine]
Materialy z meteorologii i gidrologii Ukrainy. Kyiv, Vyd-
vo AN URSR, 1963. 140 p. (MIRA 16:10)

1. Akademiya nauk URSR, Kiev, Ukrain's'ke geografichne to-
varystvo. 2. AN Ukr.SSR (for Pogrebnyak). 3. Chlen-korres-
pondent AN Ukr.SSR (for Pyshkin).
(Ukraine--Meteorology) (Ukraine--Hydrology)

POPOV, V.P., prof., otv. red.; BOGATYR, T.K.[Bohatyr, T.K.], red.;
 DIBROVA, O.T., prof., red.; ZAMORIY, P.K.[Zamorzi, P.K.],
 prof., red.; MARINICH, O.M.[Marynich, O.M.], doktor geogr.
 nauk, red.; POGREBNIYAK, P.S.[Pohrebniak, P.S.], akademik,
 red.; PYSHKIN, B.A., red.; STAROVOYTENKO, I.P.
 [Starovoitenko, I.P.], kand. geogr. nauk, red.; KHARCHENKO,
 A.S., dots., red.; MEL'NIK, G.F.[Mel'nyk, H.F.], red.izd-va;
 TURBANOVA, N.A., tekhn. red.

[Materials on the meteorology and hydrology of the Ukraine]
 Materialy z meteorologii i gidrologii Ukrainy. Kyiv, Vyd-vo
 AN URSR, 1963. 140 p. (MIRA 16:8)

1. Akademiya nauk URSR, Kiev. Ukrain's'ke geografichne tova-
 rystvo. 2. AN Ukr.SSR (for Pogrebnyak). 3. Chlen-korrespondent
 AN Ukr.SSR (for Pishkin).
 (Ukraine--Meteorology) (Ukraine--Hydrology)

PYSHKIN, B.A., otv. red.; ARISTOVSKIY, V.V., doktor tekhn.nauk, prof.,
red.; RUSAKOV, S.V., kand. tekhn. nauk, red.; MAKSIMCHUK,
V.L., kand. tekhn. nauk, red.; TSAYTS, Ye.S., kand. tekhn.
nauk, red.; PECHKOVSKAYA, O.M., red.; LIBERMAN, T.R., tekhn.
red.

[Changes in the banks of reservoirs] Pererabotka beregov vodo-
khranilishch. Kiev, Izd-vo Akad. nauk USSR, 1962. 140 p.
(MIRA 15:11)

1. Akademiya nauk URSR, Kiev. Rada po vyvchenniu produktyvnykh
syl. 2. Chlen-korrespondent Akademii nauk Ukr. SSR (for Pyshkin).
(Reservoirs) (Coast changes)

DIKOVSKIY, M. M., PYSHKIN, B. A., and PEREKHREBT, B. M.

"Principles of water resources"

report to be submitted for the United Nations Conference on the
Application of Science and Technology for the Benefit of the Less
Developed Areas - Geneva, Switzerland, 4-20 Feb 63.

PYSHKIN, B.A. (Kiyev)

Rate of alluvium drift along a bank. Prykl.mekh. 7 no.6:657-662
'61. (MIRA 14:11)

1. Institut gidrologii i gidrotekhniki AN USSR.
(Alluvium)

Pyshkin, B. N.

S/908/62/000/000/004/008
B163/B180

AUTHORS: Gagin, Ye. N., Kaminir, L. B., Molchanov, S. S.,
Orlovskiy, G. N., Pisarev, V. Ya., Pyshkin, B. N.,
Fedotov, A. P., Yakimenko, M. N.

TITLE: System for electron injection into the chamber of the
680 Mev synchrotron

SOURCE: Uskoritel' elektronov na 680 Mev; sbornik statey. Ed. by
Z. D. Andreyenko. Moscow, Gosatomizdat, 1962. 41-49

TEXT: The method is the same as in the Dubna 10 Bev proton synchrotron. Particles of constant energy are injected into the magnetic field of the first quadrant almost at right angles to the magnet radius; injection is stopped on reaching the equilibrium orbit of the chamber center, and the accelerating field is switched on direct injection is impossible, due to the design of the accelerator magnet and the high-voltage injector (injection energy 0.8 Mev). The electron beam from the Van de Graaff generator is first deflected by a magnetic 60° sector field and then injected by three pairs of deflection plates for a total deflection of

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System for electron injection ...

S/908/62/000/000/004/008
B163/B180

30°, into the synchrotron chamber. Between the Van de Graaff exit and the magnetic deflector there is a magnetic corrector consisting of two pairs of magnetic polepieces to correct the eccentricity of the accelerated beam with respect to the geometrical axis. Directly behind the magnetic deflector is a 1.5 kv electric deflector which can be used to select short pulses of 1 μ sec. When switched off, the beam passes through a horizontal slit diaphragm. The alignment can be checked on two fluorescent screens. A double electrostatic corrector and two capacitors adjust the position and angle of the beam in the deflectors of the injector, which are in one of the straight sections of the accelerator. Each plate can be separately adjusted by translation and rotation from outside without destroying the vacuum. The radius of curvature of the orbit in this deflection system is 60 cm. The voltage across each pair of plates can be controlled separately. A rough estimate shows that an instability of $2 \cdot 10^{-3}$ rad in the radial and $5 \cdot 10^{-3}$ rad in the axial component of the injection angle produce an intensity loss of 20%. The instabilities of the supply sources are of the order of 0.01 to 0.06%. Circuit diagrams are given for the d.c. amplifier and the rectifier for the reference voltage. There are 5 figures and 1 table.

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(2)
S/908/62/000/000/005/008
B163/B180

AUTHORS: Kaminir, L. B., Molchanov, S. S., Orlovskiy, G. N.,
Pyshkin, B. N., Fedotov, A. F., Yakimenko, M. N.

TITLE: Radiotechnical system of the 680 Mev accelerator

SOURCE: Uskoritel' elektronov na 680 Mev; sbornik statey. Ed. by
Z. D. Andreyenko. Moscow, Gosatomizdat, 1962. 50-57

TEXT: In the first acceleration stage, when the electron velocity is still low, a broad-band accelerating device is used consisting of a 55 cm drift tube and a section of coaxial line, whose input conductance compensates the capacitance of the tube. The equivalent oscillatory circuit has a wave resistance of 65 ohm. The circuit is shunted by a resistance to broaden the transmission band. The acceleration per orbit is 250 v, the HF power 2 kw; in the first 10 msec the frequency increases from 19.2 - 20.4 mcps. In the second stage, acceleration occurs with a constant frequency of 20.4 Mcps, using a toroidal resonator with a Q-factor of 2000, and wave resistance 6 ohm. Acceleration per orbit is 15 kv, and HF power dissipation 20 kw. The radiation loss in the final stage is

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Radiotechnical system of the ...

S/908/62/000/000/005/008
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about 10 kev' per orbit. The timing of the different accelerator elements (injection pulse, magnetising current, first and second accelerating stage) is controlled by pulses connected to delay circuits. A system of signal electrodes indicates the intensity and position of the beam during acceleration. There are 6 figures.

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GRYAZNOV, A.I.; METAL'NIKOV, Yu.N.; MOLCHANOV, S.S.; NOVIKOVA, G.V.;
PETUKHOV, V.A. PISAREV, V.Ye.; PYSHKIN, B.N.; PANTYUSHKOVA, Ye.V.;
SEDOV, M.G.; SHCRIN, K.N.; YAKIMENKO, M.N.

The 680 Mev. synchrotron of the Physical Institute of the Academy
of Sciences of the U.S.S.R. Atom. energ. 13 no.3:228-234 S '62.
(MIRA 15:9)

(Synchrotron)

PYSHKIN, I., arkhitektor

Housing construction in Krasnodar Territory. Zhil. stroi.
no.3:9-11 Mr '60. (MIRA 13:6)
(Krasnodar Territory--Apartment houses)

ACC NR: AT6022370

SOURCE CODE: UR/0000/66/000/000/0079/0085

AUTHOR: Varakin, L. Ye.; Pyshkin, I. M.

ORG: none

TITLE: Random-access communication system with multivariate signals analyzed

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966. Sektsiya teorii informatsii. Doklady. Moscow, 1966, 79-85

TOPIC TAGS: radio communication system, random access communication system,

radio noise
ABSTRACT: H. Blasbalg et al. have described the principle of operation and fundamental characteristics of a new random-access radio communication system that uses frequency-shifted pseudo-noise (PN) signals (IEEE Internat. Conv. Rec., 1964, pt. 6). The present article tries to determine the possible number of talkers (subscribers), in this switchless system, which depends on the basis of PN signal, the mutual-interference (clutter) level, and the conventional noise; numerical information is transmitted. The result is presented in the form of curves of number of talkers vs. total-noise power for probabilities of error lying between 10^{-1} and 10^{-6} . Orig. art. has: 1 figure and 22 formulas.

SUB CODE: 17 / SUBM DATE: 28Apr66 / ORIG REF: 005 / OTH REF: 003

Card 1/1

PYSHKIN, I.P.

Seminar for engineering and technical workers in communications.
Vest. svyazi 20 no.5:31 My '60. (MIRA 13:12)

1. Nachal'nik Odesskogo elektrotekhnicheskogo instituta svyazi.
(Telecommunication—Congresses)

PYSHKIN, I.P.; VOPILKIN, V.A.; KUZ'MIN, N.G.

Overall mechanization in the erection and repair of overhead
communication lines. Vest. svyazi 20 no. 12:7-9 D '60.
(MIRA 13:12)

1. Odesskiy elektrotekhnicheskiy institut svyazi.
(Electric lines--Overhead) (Chain saws)

the author investigated systems in which a continuous stimulus is converted into a discrete value of a certain variable on which the effect is calculated. The systems which are continuous or piecewise-continuous are accomplished either by means of circuit (a Pulse system) or as its input is continuous system for the detection of time systems, the author introduces so-called conditional transfer functions in the form of which for the same extrapolating device depends on the character of the input stimulus. There are 4 references, all Soviet, including 1 translation.

PYSHKIN, I.V. (Moskva)

Certain method for representing the structural network of a linear sequential machine. Avtom. i telem. 24 no.4:531-538 Apr '63.

(MIRA 16:4)

(Automatic control)

S/103/63/024/004/010/014
D201/D308

AUTHOR: Pyshkin, I.V. (Moscow)

TITLE: A method of representation of the structural circuit of a linear sequential network

PERIODICAL: Avtomatika i telemekhanika, v. 24, no. 4, 1963, 531-538

TEXT: The author shows that any linear sequential network (LSN) may be represented by a serial connection of the usual linear switching systems, with parameters determined by those of the LSN, and of a non-linear element, the operation of which is determined only by the module of the field p . Thus the z -transformation and other classical methods of analysis can be applied to the linear switching part while the analysis of the non-linear element is reduced to that of the relationships between its input and output functions. The frequency methods of analysis of LSN, as presented in this article, are however, limited in their applications because the linear switching part of the equivalent system is always funda-

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D201/D308

A method of representation ...

mentally unstable. There are 10 figures and 2 tables.

SUBMITTED: July 2, 1962

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PYSHKIN, I.V. (Moskva)

Accurate method for calculating the transients and stability
of sampled-data systems with finite data registration time.
Avtom. i telem. 24 no.10:1303-1316 0 '63. (MIRA 16:11)

PYSHKIN, I.V. (Moskva)

Processes of finite duration in pulse-width systems. Avtom.1
telem. 21 no.2:201-208 P '60. (MIRA 13:5)
(Pulse techniques (Electronics))

PYSHKIN, I.V. (Moskva)

Stability of a certain class of systems with variable parameters
changing in a periodic and step-wise manner. Avtom. i telem.
22 no.9:1244-1247 S '61. (MIRA 14:9)
(Automatic control)

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SOV/103-21-2-5/14

AUTHOR: Pyshtkin, I. V.
TITLE: Processes of Finite Duration in Impulse-Width Systems
PERIODICAL: Avtomatika i telemekhanika, 1960, Vol 21, Nr 2,
pp 201-208 (USSR)
ABSTRACT: The paper investigates processes of finite duration
in impulse-width systems. When the duration of the
external disturbance is limited by the repetition
interval, the transient process in an impulse-
width system may be terminated after n cycles of
an impulse element, n being the order of the
differential equation describing the continuous
part of the system. Figure 1 shows a system
comprising a continuous part and an impulse element
which produces a width modulation.

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Processes of Finite Duration in Impulse-Width
Systems

77825

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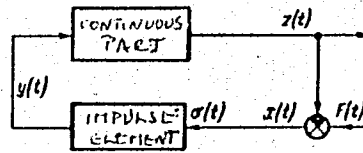


Fig. 1.

The continuous part including an integrating link is described by the differential equation

$$a_n z^{(n)}(t) + a_{n-1} z^{(n-1)}(t) + \dots + a_1 z'(t) = y(t), \quad (1)$$

Here and in Fig. 1 $z(t)$ is the output of the system and $y(t)$ is the output of the impulse element. The following expressions are valid for $y(t)$:

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Processes of Finite Duration in Impulse-Width
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$$y(t) = \begin{cases} k_i \operatorname{sign} \sigma(kT) & \text{at } kT < t < kT + T\Omega[\sigma(kT)], \\ 0 & \text{at } kT + T\Omega[\sigma(kT)] < t < kT + T, \end{cases} \quad (2)$$

where $\sigma(t)$ is the control actuating signal and

$$\Omega(\sigma) = \begin{cases} \frac{1}{\kappa} |\sigma| & \text{at } |\sigma| < \kappa(1 + \dots) \\ 1 & \text{at } |\sigma| > \kappa. \end{cases} \quad (3)$$

The impulse element is characterized by the following parameters: (1) the repetition interval T ; (2) the amplification factor k_i ; and (3) the sensitivity κ . At the comparator output we have

$$x(t) = F(t) - z(t), \quad (4)$$

where $F(t)$ is the external disturbance. It is assumed that $F(t)$ has the form of a jump of height $\sqrt{\kappa}$. To obtain an n -cycle process it is necessary that at the discrete moments $0, T, \dots, (n-1)T$ the signal

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Processes of Finite Duration in Impulse-Width
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$\sigma(t)$ assumes such magnitudes $\sigma(0); \sigma(T), \dots, \sigma(nT-T)$ that at the moment $t = nT$ the output $z(t)$ equals β and the derivatives of $z(t)$, up to the $(n-1)$ th inclusive, equal zero as described by Eq. (5)

$$z(nT) = \beta, \quad z^{(i)}(nT) = 0 \quad (i = 1, 2, \dots, n-1). \quad (5)$$

Thus, $y(t)$ represents a sequence of n rectangular impulses whose duration must be determined from the conditions defined by Eq. (5). Based on the above conditions and using the Laplace transformation of Eq. (1), equations are derived for $\sigma(t)$. These equations are transcendental and, in their general form, cannot be solved. Solutions are found for a system of second order whose continuous part is described as

$$T_1 z''(t) + z'(t) = ky(t).$$

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Processes of Finite Duration in Impulse-Width Systems

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It is shown that in this case $\sigma(t)$ is defined either as

$$z(t) = \begin{cases} N_0^{-1}[x(0)] & \text{at } t=0, \\ N_1^{-1}[x(T)] & \text{at } t=T \end{cases} \quad (24)$$

or as

$$\sigma(t) = \begin{cases} N_0^{-1}[x(0)] & \text{at } t=0, \\ N_2^{-1}[x'(T)] = -N_2^{-1}[z'(T)] & \text{at } t=T. \end{cases} \quad (25)$$

where N_0 , N_1 and N_2 are complex nonlinearities expressed by Eqs. (18), (20) and (21), respectively.

$$x(0) = N_0[\sigma(0)] = kk_f T \operatorname{sign} \sigma(0) \left\{ \Omega[\sigma(0)] - \right. \\ \left. - \frac{T_1}{T} \ln \left(e^{-\frac{T}{T_1} + \frac{T}{T_1} \Omega[\sigma(0)]} - e^{-\frac{T}{T_1} + 1} \right) \right\}, \quad (18)$$

$$z(T) = \beta - kk_f T \operatorname{sign} \sigma(T) \left\{ \Omega[\sigma(T)] - \frac{T_1}{T} \left(e^{\frac{T}{T_1} \Omega[\sigma(T)]} - 1 \right) \right\} = \beta - N_1[\sigma(T)], \quad (20)$$

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Processes of Finite Duration in Impulse-Width
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$$z'(T) = -kk' \text{sign } \sigma(T) \left(e^{\frac{T}{T_1} \Omega[\sigma(T)]} - 1 \right) = -N_2[\sigma(T)]. \quad (21)$$

Figure 3 shows system 3a corresponding to Eq. (24) and system 3b, to Eq. (25).

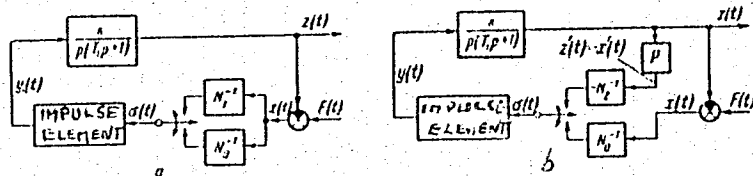


Fig. 3.

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System 3b is considered to have greater advantages

Processes of Finite Duration in Impulse-Width
Systems

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because at $t = T$ the control does not depend on changes of the external disturbance $F(t)$, whereas system 3a requires that $F(t)$ has the form of a jump. An experimental setup corresponding to system 3b had shown that: (1) the nonlinearities N_0^{-1} and N_2^{-1} may be approximated by amplifiers with appropriate amplification factors; (2) the transient process is terminated after 2 cycles, whereas a conventional transient process has a duration of about 6 cycles; (3) the above method of 2-cycle process is not effective at higher values of $F(t)$. There are 7 figures; and 5 references, 4 Soviet, 1 U.S. The U.S. reference is: Kalman, R. E. Design of Self-Optimizing Control System, ASME Transactions, Vol 80, Nr 2, (1958).

SUBMITTED: July 19, 1959

Card 7/7

TSYPKIN, Yakov Zalmanovich; KOROLEV, N.A., red.; PYSHKIN, I.V., red.;
GAVRILOV, S.S., tekhn.red.

[Theory of pulse systems] Teoriia impul'snykh sistem. Moskva,
Gos.izd-vo fiziko-matem.lit-ry, 1958. 724 p. (MIRA 12:4)
(Pulse techniques (Electronics))

PYSHKIN, I. V. Cand Tech Sci -- (diss) "Questions on the theory and calculation of latitudinal impulse systems for automatic control," Moscow, 1960, 14 pp, 120 cop. (Moscow ~~Engineering~~ Energetics Institute) (KL, 44-60, 131)

PYSHKIN, I. V.

28(1)

PHASE I BOOK EXPLOITATION

SOV/1606

Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki

Avtomatika i telemekhanika; sbornik (Automation and Telemechanics; Collection of Articles) Moscow, Izd-vo AN SSSR, 1958. 144 p.
5,000 copies printed.

Resp. Ed.: Ya.Z. Tsypkin; Ed. of Publishing House: V.A. Kotov;
Tech. Ed.: I.N. Guseva.

PURPOSE: The book may be useful to engineers working with automatic and remote control.

COVERAGE: This is a collection of 15 articles which were presented at the fourth and fifth scientific and technical conferences of young members of the Institute of Automation and Telemechanics of the USSR Academy of Sciences. The fourth conference was held in 1955 and the fifth in 1956. The material contained in the articles is based on research work done by young members of the Institute.

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Automation and Telemechanics (Cont.)

SOV/1606

The articles discuss automatic and remote control devices and the automated drive. No personalities are mentioned. References appear at the end of each article.

TABLE OF CONTENTS:

Foreword

3

AUTOMATIC CONTROL

5

Diligenskiy, S.N. Stabilization of Position-Control Relay Servomechanism Systems

5

The author discusses dynamic characteristics of relay servomechanism components and describes stabilizing signals of a system with an ideal relay and a delay relay. He also discusses a method of approximating and generating stabilizing signals. There are 5 references, all Soviet.

~~Pyshkin, I.V.~~ Stability of Automatic Control Systems with Control Keys

21

The author obtains a characteristic equation and an expression for transients of an automatic control system

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SOV/1606

Automation and Telemechanics (Cont.)

acted upon by a step signal. He also describes a method of stabilizing systems by introducing a control key and by increasing feedback coefficient. There are 5 references, all Soviet.

Sinitsyn, A.S. Device for Experimental Determination of Frequency Characteristics of Servomechanism Systems
The author describes the operation of a device used for determining frequency characteristics of d-c and a-c servomechanism systems. The device was developed at IAT AS USSR in 1954. Its error of amplitude and phase measurement is 1-2% and 1° respectively. There are no references.

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ELEMENTS OF AUTOMATIC AND REMOTE CONTROL DEVICES

34

Karibskiy, V.V. Principles of the Operation of Magnetic Memory Devices (a Survey)
The author discusses basic characteristics of a memory device and describes the operation of memory devices using
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34

Automation and Telemechanics (Cont.)

SOV/1606

magnetic drums, magnetic tapes, and ferromagnetic cores.
There are 10 references, 4 of which are Soviet and 6 English.

Maslov, A.A. Special Diode Functional Converters Using
Crystal Diodes

41

The author discusses the operation and characteristics of various crystal diode converter circuits. Particular attention is given to the operation of a special diode functional converter circuit using germanium diodes for functions $e_{out} = \frac{1}{100} e_{in}^2$ and $e_{out} = 10 \sqrt{e_{in}}$. There are 3 references, all Soviet.

Maslov, A.A., and A.D. Talantsev. Cathode-ray Tube Functional
Converters Based on the Principle of Controlled Sweep

49

The authors describe a system of dynamic compensation using cathode-ray tubes. They also explain the operation of a peak detector and circuits with horizontal and vertical sweep controls. There are 7 references 6 of which are Soviet [including 3 translations] and 1 English.

Mel'nichuk, A.Ya. Electromagnetic Frequency Signal Receivers
With Coupled Vibrators

58

The author discusses the requirements imposed upon selectivity

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Automation and Telemechanics (Cont.)

SOV/1606

characteristics of electromagnetic signal receivers and describes methods of designing and constructing a system of coupled mechanical vibrators. He also discusses a study of experimental signal receivers with coupled vibrators. There are 15 references, 12 of which are Soviet, 2 English, and 1 German.

AUTOMATED ELECTRIC DRIVE

74

Petelin, D.P. Mechanical Transients of a Synchronous Motor With Frequency Control

74

The author discusses methods of starting a synchronous motor with low-frequency alternating current and describes transients occurring during acceleration and braking of a synchronous motor. He also discusses mechanical transients in a synchronous motor-generator set with frequency control. There are 11 references, 6 of which are Soviet, 4 English, and 1 German.

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Automation and Telemechanics (Cont.)

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AUTOMATIC CONTROL

86

Mel'ttser, L.V. Selection of Operating Conditions for a Phase Ionization Flowmeter

86

The author discusses the design of a gas flowmeter measuring the phase shift of the ionization field created in a pipeline due to radioactive radiation. He also describes methods of selecting its operating conditions and obtains an expression for current sensitivity in a flowmeter. There are 5 references, 4 of which are Soviet, and 1 English.

Stakhovskiy, R.I. Causes of Instability of Ionization Currents in a Monitoring Mass Spectrometer and a Method of Periodic Automatic Calibration

91

The author describes causes of instability of ionization currents in a monitoring mass spectrometer and discusses experimental results of the calibration of a gas analyzer developed by IAT AS USSR together with VNII Podzemgaz MUP USSR. He also discusses experiments for determining factors influencing the ionization current of secondary emission in the ionization chamber and describes method of using a computer

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with a mass spectrometer when its parameters are unstable.
There are 8 references, 5 of which are Soviet, 2 English, and
1 German.

TELEMECHANICS

Abdullayev, D.A. Some Problems in Engineering Remote Control
Systems With Scattered Control Stations

109

The author discusses methods for the engineering and
optimum utilization of remote control systems and their
components when control stations are scattered over large
areas. There are 7 references, 6 of which are Soviet, and
1 English.

Kashirin, V.A. Optimum Time of Quantizing a Signal When
Disturbances are Present

118

The author derives an expression for errors due to limita-
tion of the signal spectrum during time quantization and

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discusses methods of selecting the optimum time of quantization during the transmission of a signal of unlimited frequency spectrum in communications channels with disturbances. There are 3 references, all Soviet.

Ostianu, V.M. Synthesis of Cascade-connected Relay Circuits With Step Switches

122

The author presents a mathematical discussion of synthesis of multi-terminal switching circuits having step switches and illustrates it by a specific example. There are 8 references, 7 of which are Soviet, and 1 English.

Povarov, G.N. Cascade Method in the Synthesis of Symmetrical Relay Circuits

127

The author discusses the graphical method for the synthesis of symmetrical and quasi-symmetrical multi-terminal relay circuits. There are 9 references, 7 of which are Soviet, 1 English, and 1 Czech.

Silayev, V.N. Remote Control Device for Outlying Equipment

133

The author discusses the most economical methods of utilizing remote control equipment. Special attention is given to operation of individual devices for remote control of systems located at considerable distances from one another. There are 3 references, all Soviet.

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RYSHKIN, I. V.

PLAS I BOOK EXCERPTATION 307/403

Academy of Sciences, Institute of Automatic Control and Telemetry (Moscow) [Moscow] (1980) 211 p. Price also listed. 5,500 copies printed.

Ed.: Ye. S. Tsyplun, Doctor of Technical Sciences, Professor; Ed. of Publishing House: Ye. A. Gerasimov; Tech. Ed.: G. A. Artyukov.

Preview: This collection of reports is intended for scientists and engineers engaged in the study of automation.

CONTENTS: The collection contains reports presented at the 6th Conference of Young Scientists of the Institute of Automatic Control and Telemetry (Moscow) in January 1979. The collection covers a wide range of scientific and technical problems connected with automatic control. So personalities are mentioned. References are given for each report.

Editor: Ye. S. Tsyplun, Doctor of Technical Sciences, Professor; Ed. of Publishing House: Ye. A. Gerasimov; Tech. Ed.: G. A. Artyukov.

After discussing the various factors which have a negative influence on the stability of high output power, the author notes that the combination of the stability of servomechanisms with high-power output requires a special approach to the design of the control system. The author discusses the problem of the stability of servomechanisms which is in turn results in instability, especially in high-speed systems. A considerable improvement in the stability of servomechanisms could be achieved by the introduction of additional vibrations of a selected frequency and amplitude, superposition of the control signal on the nonlinear system. This will result in the optimization of the transient and in the linearization of the nonlinear system. Although the transient of mechanical vibrations are conventionally used in optical systems, it would be possible to use a hydraulic vibrator. The author presents a detailed mathematical analysis of the operation of a hydraulic vibrator-circuit developed under the supervision of V. V. Petrov, and also includes basic directions for its design. There are 3 references, all Soviet.

Editor: Ye. S. Tsyplun, Doctor of Technical Sciences, Professor; Ed. of Publishing House: Ye. A. Gerasimov; Tech. Ed.: G. A. Artyukov.

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D201/D302

9.3276

AUTHOR:

Pyshkin, I.V.

TITLE:

Oscillations in systems with pulse-width modulation

PERIODICAL:

Referativnyy zhurnal. Avtomatika i radioelektronika,
no. 6, 1961, 35, abstract 6 V252 (V sb. Teoriya i
primeneniye diskretn. avtomat. sistem, M., AN SSSR,
1960, 134-150)

TEXT: The method of analysis is given of symmetric oscillations in systems with pulse-width modulation (PWM), the period of which is the N-th multiple of two repetition periods. The conditions for these oscillations are established by equating the discrete values of the output quantity of the system with periodic signals at the input of the pulse element to the discrete values of this periodic input. The conditions of oscillations represent a transcendental system of equations. Assuming that the continuous part of the system has filtering properties then, for every period of oscillation,

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Oscillations in systems...

it is possible to determine such regions in the plane of its feedback frequency characteristic, that if the point at this characteristic is inside the region corresponding to this period, then the oscillations with this period are possible. The shape of regions depends only on the period of oscillations and not on the parameters of the system, so that these regions may be constructed once and for all. In the article regions are given corresponding to the oscillations with period $2T$ and $4T$, where T - the pulse repetition interval. In the case of oscillations, in which pulses completely fill in the repetition interval - similar regions are obtained for a larger period. The methods of analyzing the stability of oscillations, as considered in the article, are given. 8 references. [Abstracter's note: Complete translation]

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